

REMARKS

Claims 1, 6, 10-12, and 18-20 have been rejected under 35 U.S.C. 103 over IBM Technical Disclosure Bulletin in view of Mikeska '919 possible further combined with Steinle; claims 8 and 9 under 35 U.S.C. 103 over the same combination applied to claim 1 further combined Branchevsky and JP '417 (newly cited); claims 9, 13-15 and 17 under 35 U.S.C. 103 over the same combination applied to claim 8 further combined with JP '150. All of these rejections are respectfully traversed.

Claim 1 is the only independent claim in this case and all of the other claims are dependent, directly or indirectly, on that claim. Claim 1 is directed to a manufacturing method in which an unsintered composite laminate is constructed and then fired at a temperature at which the green layers in the laminate are sintered. The provided laminate is constructed using a plurality of green layers, a restriction layer which does not sinter at the sintering temperature of the green layers arranged to contact a primary surface of at least one of the green layers, at least one wiring conductor associated with a green layer and a sintered plate of a fired first ceramic functional material which is different from the ceramic functional material of the green layers. The sintered plate has an area smaller than the area of the primary face of the green layer on which it is placed, a thickness which is less than the thickness of the green layers, a terminal electrode arranged to be in electrical contact with a wiring conductor, and the sintered plate is disposed between the primary faces of a pair of adjacent green layers.

One feature of the invention which is not taught nor suggested in IBM, and which is not remedied by the secondary references, is the sandwiching of the sintered plate between primary faces of two green layers which are in substantially parallel

planes followed by pressing and firing the resulting composite at the temperature at which the green layers are sintered.

The IBM disclosure describes 4 different bodies. In Fig. 1, a preformed capacitor 10 containing sintered Mo layers 15 coating a ceramic disk 16 is inserted between greensheets; there is no teaching or suggestion of sintering the resulting structure. In Fig. 2, the sintered layers 15 are absent and the disk is surrounded by an unfired metal paste 22. In Fig. 3, the sintered layers 15 are again absent and a dielectric 25 separates unfired metal pastes 22, and this structure fired. In the final disclosed body shown in Fig. 4, a via is filled with a dielectric 30 and an unfired metal paste 22 is present. In none of these bodies is any sintered material which has an area smaller than the area of the primary face of the green layer on which it is placed as well as a thickness which is less than the thickness of the green layers inserted between green sheets and the resulting composite fired. None of the secondary references remedy this deficiency.

The Office Action also acknowledges that IBM does not have any teachings concerning restriction layers. The secondary references do not cure this deficiency either. Mikeska has been cited to show the use of a restriction layer but the restraining layers in Mikeska are used in connection with a structure in which all of the layers are the same green ceramic material. There is no teaching or suggestion that the restraining layers be used in conjunction with a structure which contains both green and sintered material.

There is nothing in Mikeska which would suggest to one skilled in the art that a restriction layer can be used where one material shrinks at one rate and another material does not shrink. A structure which has layers exhibiting uneven shrinkage characteristics can easily become deformed and defective as shrinkage occurs. Also, the

IBM construction has metallic stripes 20 in direct contact with green layers 12, 14, and how a Mikeska restriction layer would be employed in connection with such an arrangement is not apparent.

Reliance on Steinle to suggest placing a capacitor on a green sheet followed by covering the structure with another green sheet and pressing is totally inconsistent with IBM's insertion technique. No motivation to ignore the IBM disclosure and replace that technique with the Steinle procedure has been suggested nor is the same apparent. It is respectfully submitted that any reliance on Steinle can only be a hindsight reconstruction.

The Branchevsky reference has been cited only with regard to claims 7 and 8, and to show a multilayer capacitor. It has not been cited to eliminate any of the discussed deficiencies in IBM, Mikeska or Steinle, nor in fact does it do so.

JP '417 has been cited to show a laminated capacitor can have internal electrodes. It has not been cited to eliminate any of the discussed deficiencies in IBM, Mikeska or Steinle, nor in fact does it do so.

JP '150 has been cited to show a ceramic multilayer substrate with a capacitor arranged between layers made from green sheets which sinter. This reference, like Branchevsky, is not asserted to cure any of the discussed deficiencies in IBM and Mikeska and in fact it does not do so.

In light of all of the foregoing considerations, it is respectfully submitted that all of the rejections should be withdrawn and that this case is now in condition to be allowed. Accordingly, the early issuance of a Notice of Allowance is respectfully requested.

Dated: November 17, 2006

Respectfully submitted,

By Edward A. Meilman
Edward A. Meilman

Registration No.: 24,735
DICKSTEIN SHAPIRO LLP
1177 Avenue of the Americas - 41st Floor
New York, New York 10036-2714
(212) 277-6500
Attorney for Applicant